
Mobility: Getting Around the Bay Area

Mobility can be defined as the ease of getting around. This section includes statistics describing how easy (or difficult) it was to get around the Bay Area on freeways, local roadways and transit, as well as statistics on the number of vehicles and people that used each of these systems in 2002.

Traffic congestion and travel time are used to describe ease of travel on freeways. Statistics on vehicles using freeways include the total number of vehicles and total number of trucks at selected locations. The report presents separate statistics on travel time savings offered by carpool lanes and the number of vehicles using carpool lanes.

Measuring the ease of travel on the local road network is more challenging because the network is so extensive and is managed by more than 100 different cities and nine counties. Most jurisdictions use an indicator of congestion called “level of service,” which corresponds roughly with traffic congestion. This report does not include traffic volumes on local roadways because this information is not consistently monitored or reported. We hope to fill this gap in future reports.

Schedule adherence (on-time performance) is used to describe ease of travel on transit. To track transit usage, the report includes annual ridership statistics reported by operators to the Federal Transit Administration.

Regional Congestion Eases for Second Straight Year, But Conditions Vary Widely by County

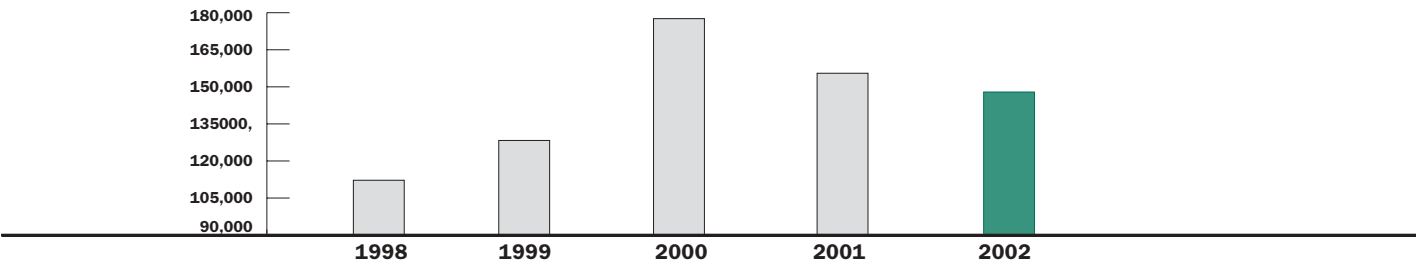
Freeways continued to flow more freely in 2002, as the sluggish Bay Area economy shed more jobs and fewer road warriors vied for precious roadway space during peak commute hours. The number of vehicle hours of delay due to congestion dropped by 5 percent last year, after sliding 12 percent in 2001. Regionwide, vehicles spent 147,900 hours per day in congested conditions (defined as average

speeds below 35 miles per hour for 15 minutes or more on a typical weekday) on Bay Area freeways in 2002, well below the 177,600 hours per day notched in 2000, at the high-water mark of the dot-com boom.

But the mild regional relaxation in gridlock conditions was not spread evenly among the counties of the Bay Area. A look at the table below reveals wide disparities in con-

Daily Freeway Delay by Bay Area County, 1998–2002

	Freeway Miles (2002)	Daily (Weekday) Vehicle Hours of Delay					Percent Change	
		1998	1999	2000	2001	2002	2001–2002	1998–2002
Alameda	138	41,800	44,300	61,700	65,600	61,300	–7%	+47%
Contra Costa	87	14,000	14,500	16,200	18,800	19,400	+3%	+39%
Marin	28	7,200	7,700	9,900	7,900	8,400	+6%	+17%
Napa	5	0	0	0	0	0	0%	0%
San Francisco	19	6,900	9,100	12,500	8,500	11,400	+34%	+65%
San Mateo	73	9,800	11,500	18,100	10,900	7,700	–29%	–21%
Santa Clara	137	29,300	36,900	51,700	37,000	31,600	–15%	+8%
Solano	79	400	700	3,200	2,400	3,700	+54%	+825%
Sonoma	55	2,800	3,600	4,300	4,400	4,400	0%	+57%
Bay Area	621	112,200	128,300	177,600	155,500	147,900	–5%	+32%



Source: Caltrans District 4

gestion readings for the year, with results ranging from a 29 percent falloff in San Mateo County to a 54 percent increase in fast-growing Solano County. And while some old standbys retained their rankings among the region's worst congestion locations at the corridor level, several East Bay newcomers muscled their way onto the list of traffic hot spots (see table on page 10).

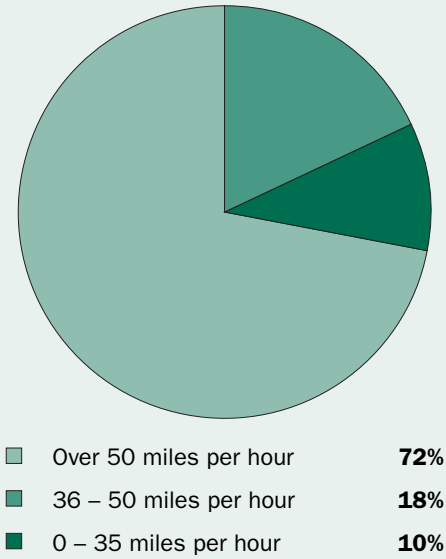
Daily delay fell for the second straight year on Santa Clara County freeways, dropping to the lowest level since 1998. Improvements to the Interstate 880/Route 237 interchange were completed in 2002, and this may help explain some of the decrease in congestion. But, as in 2001, the traffic-reducing effect of the slump in the South Bay's high-tech economy was clearly at work as well. Likewise for San Mateo County, where the 29 percent drop in vehicle hours of delay brought congestion to its lowest point since 1996. New auxiliary lanes on U.S. 101 and the November 2002 widening of the San Mateo-Hayward Bridge certainly eased pressures on county freeways, but economic stagnation likely played a much larger role.

Yet as traffic thinned in the South Bay, it thickened noticeably in some North Bay and East Bay locations. Solano County resumed its recent rise in the annual congestion tallies, with congestion jumping by 54 percent in 2002 (following a pullback of 25 percent in 2001). Year-to-year swings are more noticeable in counties such as Solano, where the absolute hours of delay are still relatively low. In the East Bay, Contra Costa County saw congestion grow slowly but steadily, as it has every year since 1998. The number of daily vehicle hours of delay is now at the highest level ever. In Alameda County, congestion was down overall by 7 percent since 2001, but traffic growth in the Tri-Valley area in the eastern part of the county caused two segments of Interstate 580 to climb higher up the list of the Bay Area's most congested locations in 2002 (see table on next page).

Appendix B lists delay on all freeway segments for the morning and evening commute periods in 2002.

**Travel Speeds on Bay Area Freeways
In Peak Commute Periods**

[5 a.m.–9 a.m. and 4 p.m.–8 p.m.]



Source: Metropolitan Transportation Commission
Based on analysis of data for 1999–2001

Commute-Hour Congestion Not Systemwide —

An interesting footnote to the discussion of travel and delay is the fact that a large portion of the Bay Area freeway system operates at fairly good speeds during the commute period, notwithstanding the considerable congestion at certain key points. Based on data from 1999–2001, MTC estimates that approximately 72 percent of the vehicle miles traveled during peak commute periods were at speeds over 50 miles per hour.

Freeway Congestion (continued)

Gridlock's Top 10 — When Caltrans District 4 compiles its list of the 10 freeway locations with the worst congestion during the morning and evening commutes, some regional hot spots reliably make appearances year after year. The morning backup along Interstate 80 leading to the Bay Bridge is a staple of Bay Area commuting, and it again topped the list of congestion locations in 2002. The slog down Interstate 880 in southern Alameda County is another familiar nemesis of workbound motorists, and 2002 was no exception. But 2002 also saw the emergence of two new

freeway segments as major trouble spots: Interstate 580 from Vasco Road to Airway Boulevard in eastern Alameda County and Route 4 from Hillcrest Avenue to Loveridge Road in Contra Costa County. Both these stretches cracked the top 10 list of most congested locations in 2002. Sliding down the list of slow spots, meanwhile, was the Sunol Grade segment of Interstate 680, which fell to eighth most congested location, down from number three in 2001. A new auxiliary lane (opened in 2001) likely accounted for some of the reduction in congestion.

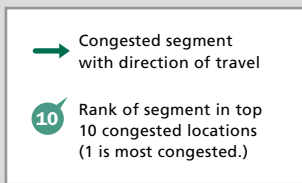
Bay Area Freeway Locations With Most Delay During Commute Hours, 2002

2002 Rank	Location	2002 Daily (Weekday) Vehicle Hours of Delay	2001 Rank	2000 Rank	1999 Rank	1998 Rank
1	Interstate 80, westbound, a.m. — Alameda/Contra Costa County Willow Avenue to Bay Bridge metering lights	9,710	1	1	1	2
2	Interstate 880, southbound, a.m. — Alameda County Thornton Avenue (Route 84) to north of Dixon Landing Road	8,880	2	3	3	5
3	Interstate 580, eastbound, p.m. — Alameda County Hopyard Road to west of El Charro Road	7,040	5	13	13	13
4	Interstate 80, eastbound and U.S. 101, northbound, p.m. — San Francisco County Cesar Chavez Street to west end of Bay Bridge	5,960	4	5	4	10
5	Interstate 580, westbound, a.m. — Alameda County Vasco Road to Airway Boulevard	3,910	12	14	17	26
6	Interstate 880, northbound, p.m. — Santa Clara/Alameda County Montague Expressway to Dixon Landing Road	3,660	7	12	5	41
7	Route 4, westbound, a.m. — Contra Costa County Hillcrest Avenue to Loveridge Road	3,640	15	32	26	37
8	Interstate 680, southbound, a.m. — Alameda County Sunol Road to south of Route 262	3,600	3	2	2	1
9	U.S. 101, southbound, a.m. — Marin County Rowland Boulevard to Interstate 580	3,520	8	6	7	4
10	Route 84, westbound, a.m. — Alameda County Newark Boulevard to Dumbarton Bridge toll plaza	2,860	10	11	9	6

Source: Caltrans District 4

Rankings are for routes in which continuous stop-and-go conditions occur with few, if any, breaks in the queue. Thus, corridors that have equally severe delays but where congestion is broken into several segments may rank lower in this type of congestion listing.

Gridlock's Top 10, 2002



0 10 20 30 Miles

0 10 20 30 Kilometers

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Freeway Commute to San Jose Is Quicker in 2002; Vallejo Ferry Speeds Riders to San Francisco

Travel times for those commuting into the region's three largest cities (San Francisco, Oakland and San Jose) followed no particular trend in 2002, varying by destination and — in some cases — by travel mode. With the high-tech economy still struggling and fewer workers jostling for space on Silicon Valley freeways and connecting routes, San Jose-bound commuters realized some significant time savings (see table on page 15). The most dramatic example of this occurred on the morning commute over the Sunol Grade on Interstate 680, where drivers shaved nearly a half hour off their trips, compared to 2001. In the East Bay, meanwhile, commute times to Oakland held steady in 2002 for both transit and freeway commuters (see table on page 14). Among those headed to San Francisco, commute times on freeways actually rose last year, but ferry riders out of Vallejo were able to sail past the backup on Interstate 80 and arrive downtown 25 minutes earlier than their road warrior brethren, proving that mode does matter on some commute segments.

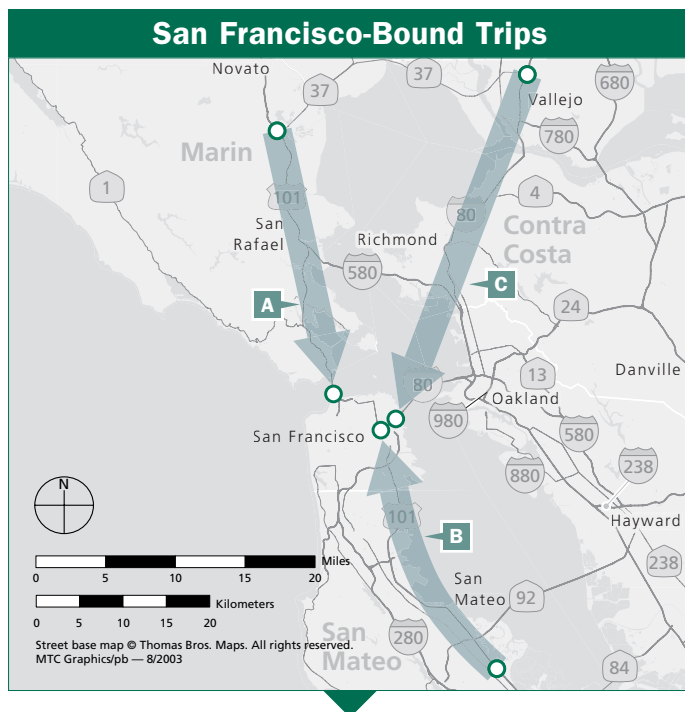
Driving times for the popular morning commutes displayed here are calculated using the freeway congestion data gathered by Caltrans. The selected commutes assume drivers use the main freeway routes between the origin and destination points, and it is further assumed that the drivers travel in regular, mixed-flow freeway lanes (not carpool lanes) and that no accidents or unusual delays are encountered en route.

This year, transit travel times are displayed for trips that originate from the same general locations as their

companion freeway commutes. The transit travel times were calculated from printed schedules, or by using the TakeTransitSM trip planner available on the MTC-sponsored 511.org Web site. Transit travel time refers to the elapsed time between the starting and ending transit stops or stations. Like the freeway travel times, transit travel times do not include the time it takes to get from home to the point of embarkation or from the destination stop to the workplace, and it is assumed that no delays are encountered en route.

Among the commutes examined here, transit alternatives generally run second to freeway commutes in terms of overall travel time, with the big exception being the Vallejo-to-San Francisco route. Riding BART is a quicker way to get from Walnut Creek to Oakland (by a few minutes), and the Hayward-to-San Jose run on Amtrak ties with its freeway counterpart, but for every other commute the freeway route is quickest.

Of course, factors other than speed (such as cost, convenience and reliability) figure into most commuters' calculations and should be borne in mind when making straight mode-to-mode comparisons of travel times. As morning and evening traffic reports attest, accidents often cause unexpected delays on Bay Area freeways. This means that travel times on a given freeway segment may exhibit a rather high degree of variability. By contrast, transit systems, such as Caltrain and BART, that run on their own tracks offer a more reliable commute.



Travel Time for Selected Commutes to San Francisco (arriving at 8:30 a.m.), 1998 – 2002

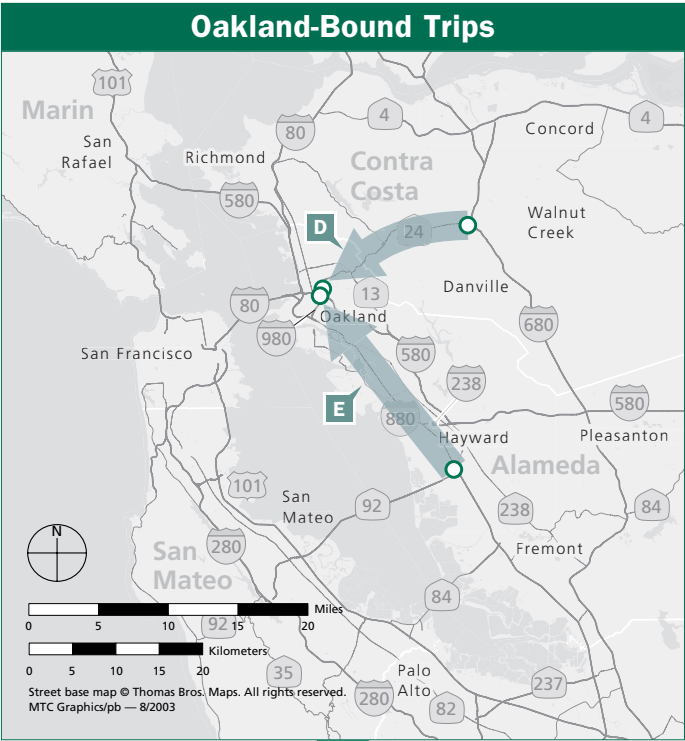
		Travel Time in Minutes					Change in Minutes	
		1998	1999	2000	2001	2002	2001–2002	1998–2002
A	From Novato							
	Freeway — U.S. 101 southbound from Novato to Route 1 junction in San Francisco (28 miles)	60	66	69	55	57	+2	–3
	Transit — Golden Gate Transit Route 80 from Novato to San Francisco Civic Center (29 miles)	NA	NA	NA	NA	71	NA	NA
B	From Redwood City							
	Freeway — U.S. 101 northbound from Redwood City to Interstate 80 junction (24 miles)	34	33	32	26	35	+9	+1
	Transit — Caltrain from Redwood City station to San Francisco station at 4th Street and Townsend (26 miles)	NA	NA	NA	NA	46	NA	NA
C	From Vallejo							
	Freeway — Interstate 80 westbound from Route 37 in Vallejo to 5th Street (32 miles)	63	70	87	82	80	–2	+17
	Transit — Vallejo Ferry Terminal to the San Francisco Ferry Building (27 miles)	NA	NA	NA	NA	55	NA	NA

Sources: Caltrans District 4 and Metropolitan Transportation Commission

Transit travel time not collected prior to 2002

Freeway travel times assume typical travel conditions, with no accidents. Transit travel times assume scheduled times.

Selected Commute Times (Freeway and Transit) continued



Travel Time for Selected Commutes to Oakland (arriving at 8:30 a.m.), 1998 – 2002

		Travel Time in Minutes					Change in Minutes	
		1998	1999	2000	2001	2002	2001–2002	1998–2002
D	From Walnut Creek	19	17	20	26	26	0	+7
	Freeway — Route 24 westbound from Interstate 680 junction in Walnut Creek to Interstate 580/980 junction (14 miles)							
	Transit — BART from Walnut Creek station to Oakland City Center/12th Street station (15 miles)	NA	NA	NA	NA	22	NA	NA
E	From Hayward	19	19	19	23	23	0	+4
	Freeway — Interstate 880 northbound and I-980 eastbound from Route 92 junction in Hayward to Interstate 580 junction (17 miles)							
	Transit — BART from Hayward station to Oakland City Center/12th Street station (14 miles)	NA	NA	NA	NA	23	NA	NA

Sources: Caltrans District 4 and Metropolitan Transportation Commission

Transit travel time not collected prior to 2002

Freeway travel times assume typical travel conditions, with no accidents. Transit travel times assume scheduled times.

Travel Time for Selected Commutes to San Jose (arriving at 8:30 a.m.), 1998 – 2002

		Travel Time in Minutes				Change in Minutes	
		1998	1999	2000	2001	2002	2001–2002 1998–2002
F	From Dublin/Pleasanton						
	Freeway — Interstate 680 southbound from Interstate 580 junction in Dublin to U.S. 101/ Interstate 280 junction in San Jose (29 miles)	66	61	69	69	42	–27 –24
	Transit — Altamont Commuter Express (ACE) Pleasanton station to San Jose Diridon station by ACE train (34 miles)	NA	NA	NA	NA	62	NA NA
G	From Gilroy						
	Freeway — U.S. 101 northbound from Route 152 junction in Gilroy to Interstate 880 junction (33 miles)	44	54	59	55	45	–10 +1
	Transit — Caltrain from Gilroy station to San Jose Diridon station (30 miles)	NA	NA	NA	NA	52	NA NA
H	From San Mateo						
	Freeway — U.S. 101 southbound from Route 92 junction in San Mateo to Interstate 880 junction (26 miles)	41	42	44	43	38	–5 –3
	Transit — Caltrain from San Mateo station to San Jose Diridon station (30 miles)	NA	NA	NA	NA	60	NA NA
I	From Hayward						
	Freeway — Interstate 880 southbound from Route 92 junction in Hayward to U.S. 101 junction (22.8 miles)	41	53	67	61	63	+2 +22
	Transit — Amtrak from Hayward station to San Jose Diridon station (28 miles)	NA	NA	NA	NA	62	NA NA

Sources: Caltrans District 4 and Metropolitan Transportation Commission

Transit travel time not collected prior to 2002

Freeway travel times assume typical travel conditions, with no accidents. Transit travel times assume scheduled times.

Modest Uptick in Bay Area Traffic Volumes; Bridge Traffic Flat

The economy may have just sputtered along and commute-hour congestion may have been down, but the volume of vehicles on selected stretches of Bay Area freeways nevertheless inched upward in 2002, with four of the seven monitored locations recording volume increases in the low single digits (see map on facing page). At one location on the periphery of the region — Interstate 505 in northern Solano County — the volume of traffic increased by a full 12 percent. On the other side of the ledger, Peninsula traffic actually declined by two percent on U.S. 101 at Millbrae Avenue — in keeping with what has been a prolonged economic slump in this technology-sensitive sector of the region since the bursting of the dot-com bubble at the beginning of the decade.

The modest growth in traffic volumes is testament to the strong travel demand in the region. This underlying trend is

easily discerned in the longer-term, 1998–2002 travel volume comparisons for each monitored location, where double-digit increases are the rule.

To monitor the usage of Bay Area freeways, Caltrans maintains fixed traffic count stations that continuously record the number of vehicles that pass by in both directions throughout the year. The traffic counts are expressed in terms of average daily vehicle volumes. It should be noted that an increase in daily traffic volume does not necessarily lead to increased congestion and longer travel times. If, for example, traffic volume on a given freeway segment increases primarily during non-peak hours when there is plenty of unused lane capacity, congestion and travel time would not be affected.

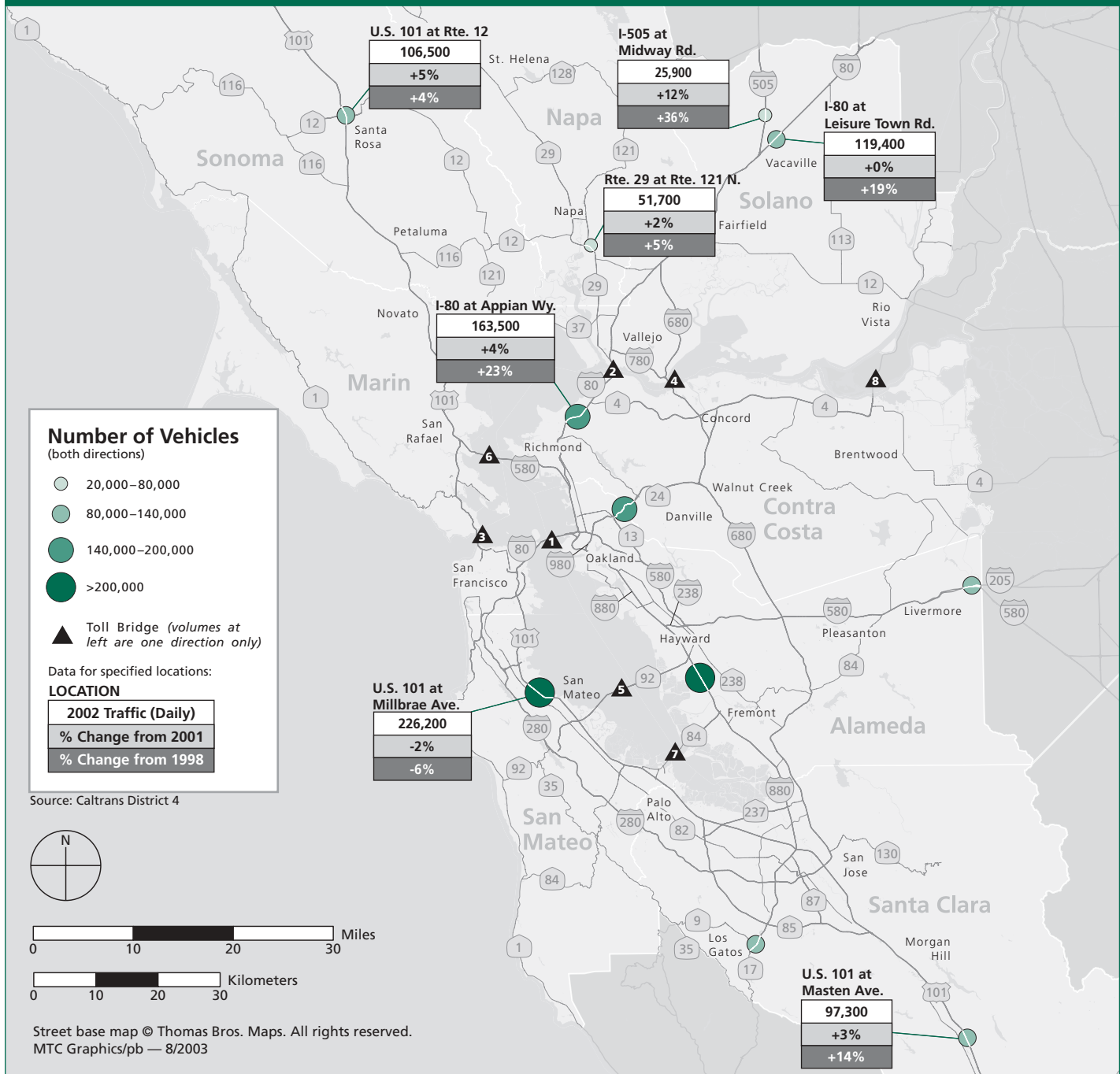
A Closer Look: Bay Area Toll Bridges — Traffic volumes were relatively flat overall on Bay Area bridges in 2002, with low-single-digit growth the rule on most spans. The Golden Gate and Dumbarton bridges actually saw a year-over-year reduction in the number of vehicles crossing in the toll direction. Longer term (1999–2002), the growth in bridge traffic also was more muted than that recorded at freeway sites farther from the region’s central core.

Average Daily Traffic on Bay Area Toll Bridges (toll direction only), 1999–2002						
Bridge	Number of Vehicles				Percent Change	
	1999	2000	2001	2002	2001–2002	1999–2002
1 San Francisco–Oakland Bay	135,220	138,181	136,636	136,952	0%	+1%
2 Carquinez	58,139	60,402	62,185	64,111	+3%	+10%
3 Golden Gate	57,586	58,127	56,511	54,920	−3%	−5%
4 Benicia–Martinez	46,892	47,705	49,382	50,797	+3%	+8%
5 San Mateo–Hayward	40,932	42,586	41,153	42,010	+2%	+3%
6 Richmond–San Rafael	32,759	33,968	35,427	35,878	+1%	+10%
7 Dumbarton	31,926	34,226	34,362	33,009	−4%	+3%
8 Antioch	5,267	5,785	6,487	6,897	+6%	+31%
Total All Bridges	408,721	420,575	422,142	424,575	+1%	+4%

Sources: Bay Area Toll Authority; Golden Gate Bridge, Highway and Transportation District

Data for 1998 not available

Average Daily Traffic on Bay Area Highways, 2002 (Selected Locations)



U.S. 101 Sees Growth in Truck Traffic Through Fiscal Year 2000-01; Slowdown Near SFO Is Exception

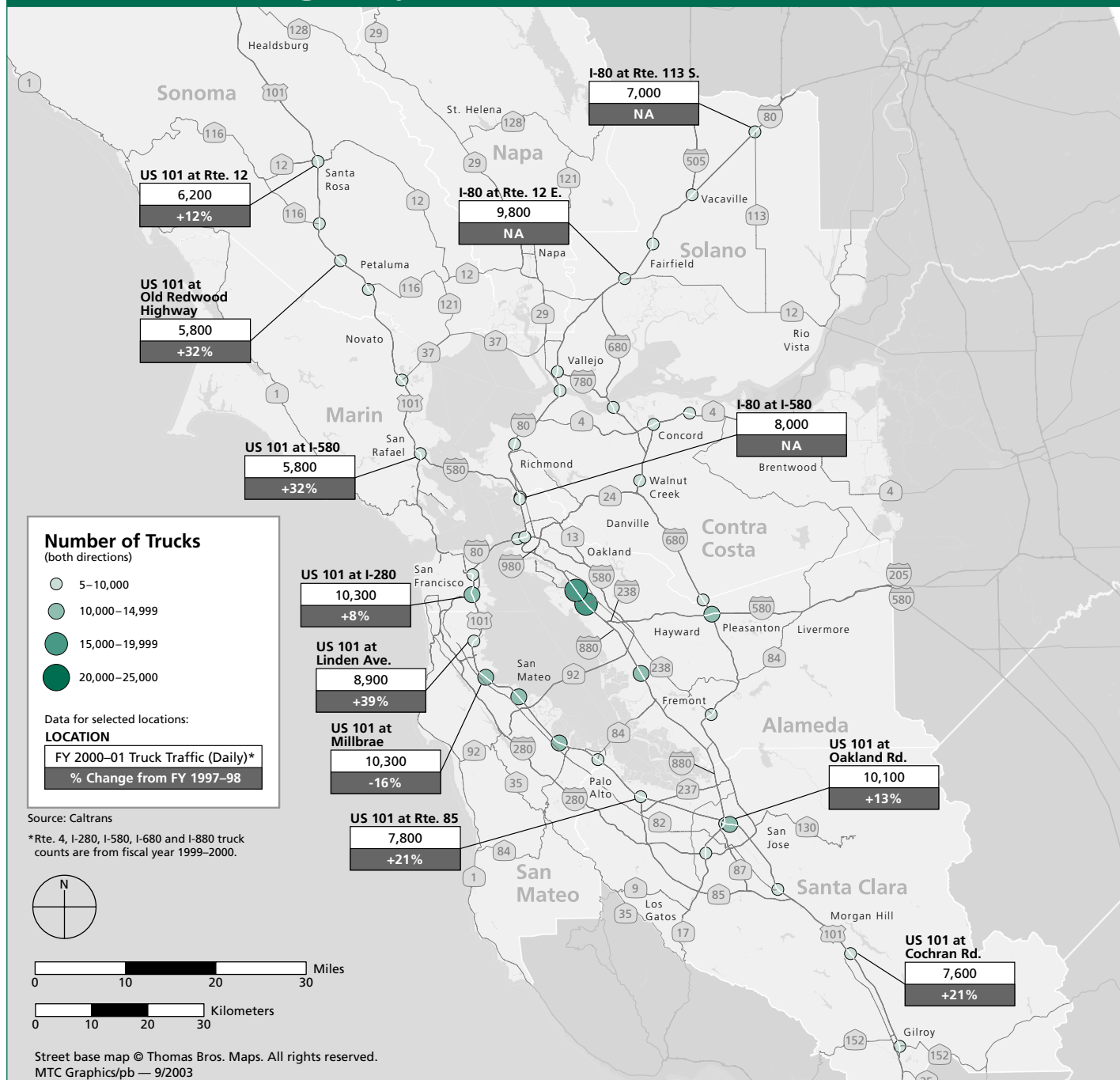
A survey of truck traffic conducted just after the peak of the last economic boom shows that the volume of trucks traveling on Bay Area portions of U.S. 101 increased markedly during the fiscal years 1997-98 to 2000-01, the most recent period for which truck counts are available. Traffic volumes recorded by Caltrans along this major north-south commercial artery grew by as much as 39 percent in that four-year timeframe. Some of the locations with the largest growth were U.S. 101 at Old Redwood Highway in Petaluma (Sonoma County), U.S. 101 at the Interstate 580 junction in San Rafael (Marin County) and U.S. 101 at Linden Avenue in South San Francisco (San Mateo County). Truck traffic increased from 32 percent to 39 percent at these three locations.

An exception to this record of freight-hauling expansion is the 16 percent drop in truck traffic on U.S. 101 at Millbrae Avenue in Millbrae. The falloff in traffic at this location is likely explained by its proximity to San

Francisco International Airport, where air cargo tonnage suffered an 18 percent decline during the similar calendar-year period 1998 to 2001 (see table on page 49). The fall in air cargo tonnage at SFO meant fewer trucks were traveling on U.S. 101 to make drop-offs or pick-ups at the airport's cargo terminals.

Caltrans monitors the volume of truck traffic throughout the Bay Area via a program of continuous sampling on a six-year cycle. All routes are monitored at least every six years, and some are monitored more frequently. In the 2000-01 fiscal year, monitoring was concentrated on U.S. 101 and some locations on Interstate 80. Counts at many locations on U.S. 101 can be compared to fiscal year 1997-98 because that is the next-most-recent year for which U.S. 101 truck traffic data is available. Data for 1997-98 is not available for locations on Interstate 80, so no earlier year comparison is shown. (See page 56 for additional information on the collection of truck traffic data.)

Average Daily Truck Traffic, Fiscal Year 2000-01*



Even With Lighter Traffic, Time Savings Afforded by Most Top Carpool Lanes Remains Steady

Bay Area carpoolers continued to realize significant time savings in many diamond-lane segments in 2002, though the benefit realized in two of the three routes with the greatest absolute time savings declined relative to the previous year. At the same time, a newcomer to the region’s carpool-lane network – Highway 101 from Wilfred Avenue to Route 12 in Sonoma County – made a strong debut in 2002, offering northbound afternoon carpoolers a

15-minute time savings compared to travel time in the adjacent mixed-flow lanes.
Far and away the best-performing carpool lane, in terms of the number of minutes lopped off the trips of those who use it, is the 11.5-mile stretch of Interstate 880 from Whipple Road to Mission Boulevard in southern Alameda County. Morning commuters traveling southbound can shave a full 40 minutes off their travel time by dou-

Bay Area Carpool Lanes Where Most Time Was Saved, 1998–2002

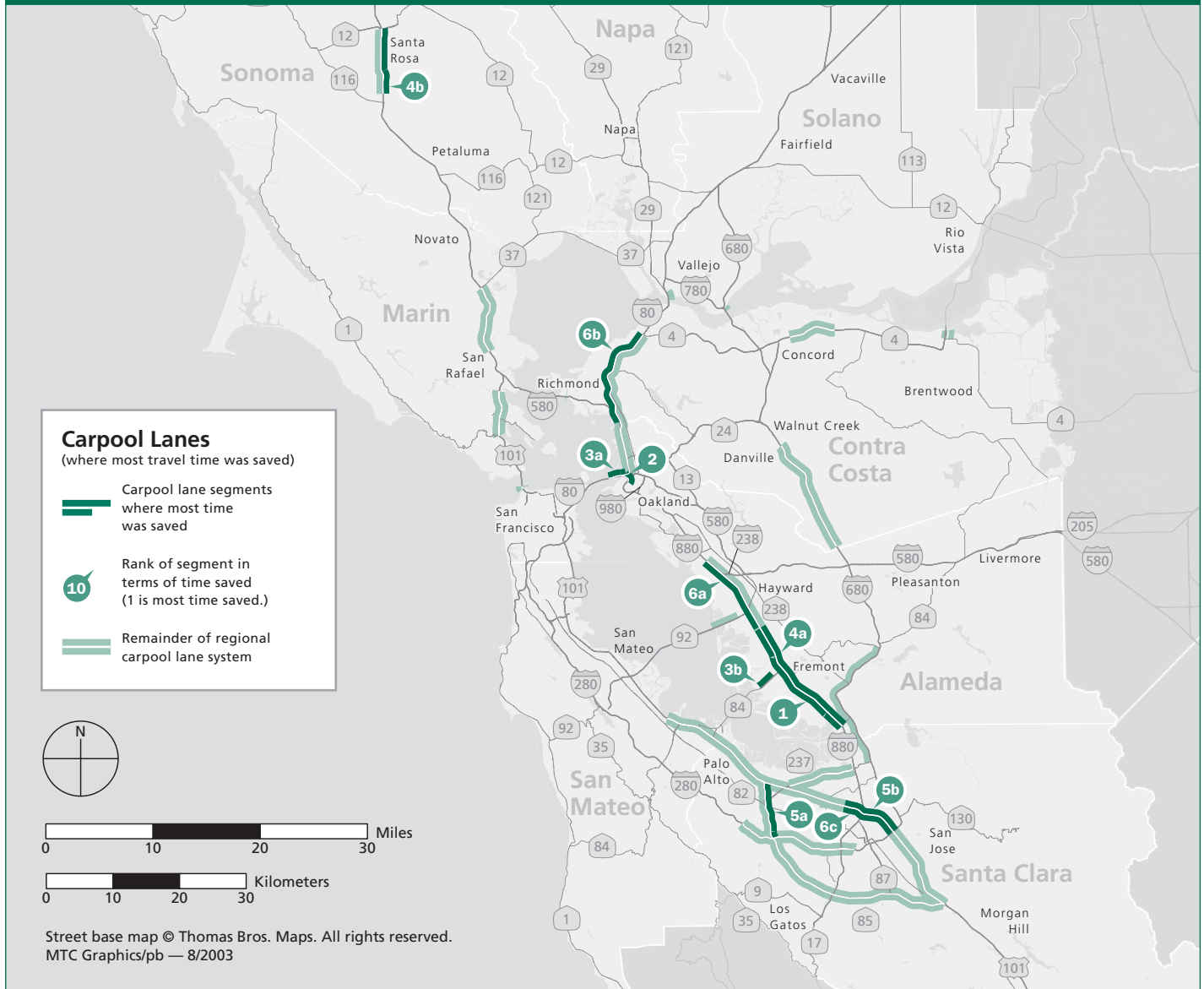
Rank	Carpool Lane	Minutes Saved per Vehicle in Peak Hour					Change in Minutes Saved	
		1998	1999	2000	2001	2002	2001–2002	1998–2002
1	Interstate 880, southbound, a.m. — Alameda County Whipple Road to Mission Boulevard (11.5 miles)	NA	25	25	40	40	0	NA
2	Interstate 880, northbound, a.m. — Alameda County 16th Street to Bay Bridge toll plaza (1.2 miles)	9	18	32	31	23	–8	+14
3a	Interstate 80, westbound, a.m. ¹ — Alameda County Bay Bridge toll plaza (4 lanes, 0.4 to 1 mile)	15	18	24	24	19	–5	+4
3b	Route 84, westbound, a.m. — Alameda County Dumbarton Bridge toll plaza (1.8 miles)	16	16	16	19	19	0	+3
4a	Interstate 880, northbound, p.m. — Alameda County Mission Boulevard to Whipple Road (11.5 miles)	NA	9	9	15	15	0	NA
4b	U.S. 101, northbound, p.m. — Sonoma County Wilfred Avenue to Route 12 (5 miles)	NA	NA	NA	NA	15	NA	NA
5a	Route 85, northbound, a.m. — Santa Clara County Interstate 280 to U.S. 101 (3.5 miles)	12	8	13	12	13	+1	+1
5b	U.S. 101, northbound, a.m. — Santa Clara County I-280/I-680 to Guadalupe Parkway (6 miles)	7	11	16	13	13	0	+6
6a	Interstate 880, southbound, a.m. — Alameda County Marina Boulevard to Whipple Road (8.8 miles)	9	14	14	12	12	0	+3
6b	Interstate 80, westbound, a.m. — Contra Costa County Route 4 to Alameda County line (9.7 miles)	10	11	11	13	12	–1	+2
6c	U.S. 101, southbound, p.m. — Santa Clara County Gaudalupe Parkway to I-280/I-680 interchange (6 miles)	4	4	5	12	12	0	+8

Source: Caltrans District 4

¹Carpool is three or more persons per vehicle. For all other listed locations, carpool is two or more persons.

NA = Not available

Time Savings in Carpool Lanes, 2002



bling up with another rider. While this time savings held steady at the year-earlier level, the next two most time-efficient carpool lanes — the I-880 and I-80 morning approaches to the Bay Bridge toll plaza — offered smaller time benefits to carpoolers in 2002 compared to 2001. In

the case of I-80, this was due to crowding in the carpool lane; in the I-880 segment, reduced congestion led to increased speeds in the mixed-flow lanes, thus decreasing the time savings offered by the carpool lane.

Reduced Congestion Diminishes Use of Carpool Lanes in 2002

The Bay Area’s most popular carpool lanes saw fewer commuters in 2002, as improved traffic conditions in mixed-flow lanes caused some workers to revert to driving alone. Six of the 10 carpool lanes with the highest peak-hour usage saw patronage decline, with the drop-offs ranging from 1 percent to 9 percent. But on stretches of Interstates 80 and 880 in Alameda County and U.S. 101 in Santa Clara County, carpooling grew in favor over the last year, continuing a long-term trend that has led to big percentage increases in usage over the 1998–2002 time period

for these lanes — and for 8 of the 10 lanes on the list. Even after a 6 percent decline in usage in 2002, the carpool lane on Interstate 80 leading to the toll plaza at the San Francisco-Oakland Bay Bridge is far and away the most heavily utilized lane in the region — even with the 3-persons-per-vehicle minimum needed to qualify as a carpool. Farther upstream on westbound I-80, usage actually grew 9 percent last year from the Contra Costa County line to the Powell Street exit in Emeryville, moving this segment into second place on the list of carpool lanes with highest

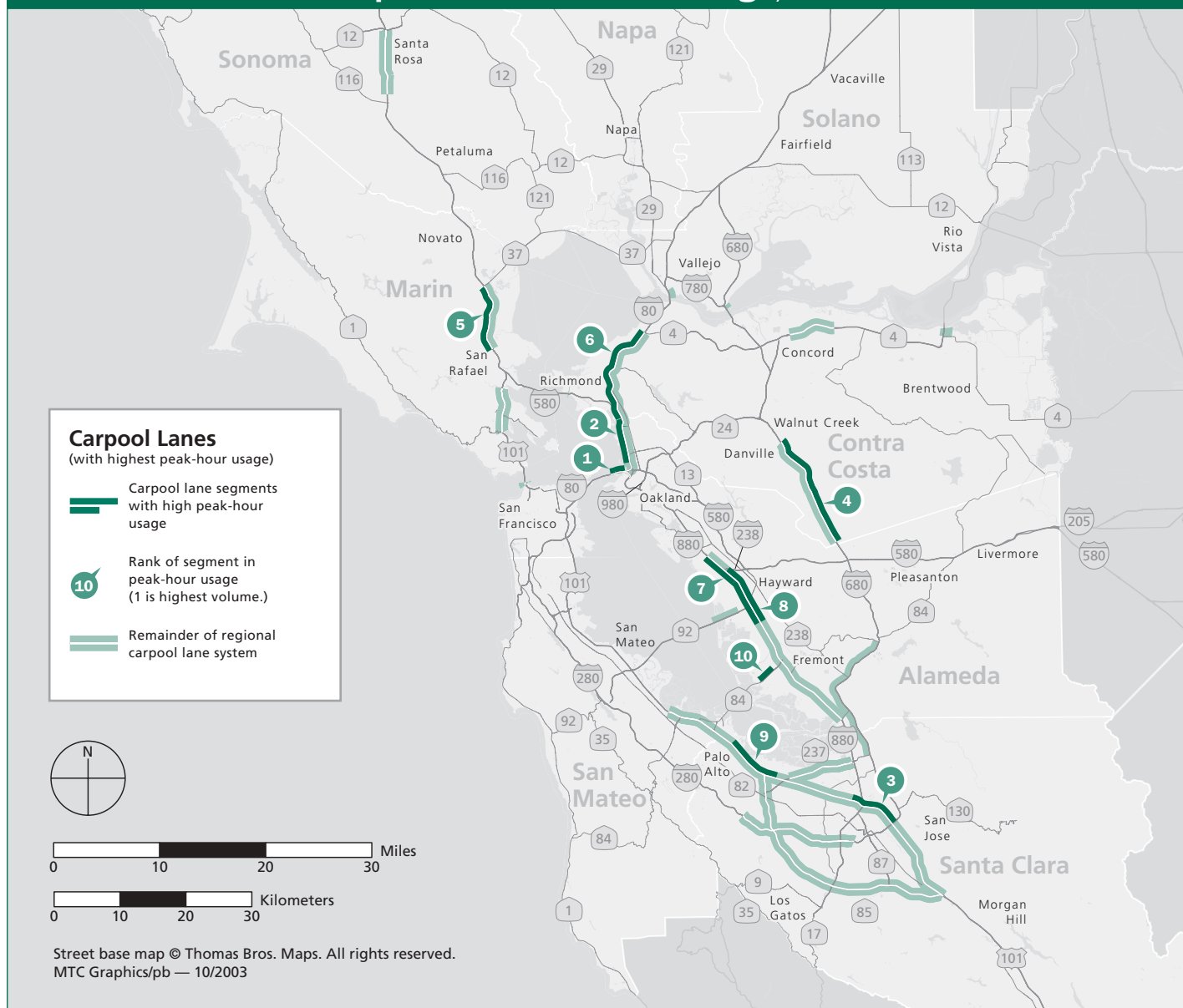
Bay Area Carpool Lanes With Highest Peak-Hour Usage, 1998–2002

Rank	Carpool Lane	Peak-Hour Carpool Vehicles ¹					Percent Change	
		1998	1999	2000	2001	2002	2001–2002	1998–2002
1	Interstate 80, westbound, a.m. — Alameda County Bay Bridge toll plaza	3,083	3,492	3,804	3,975	3,730	–6%	+21%
2	Interstate 80, westbound, a.m. — Alameda County Contra Costa County line to Powell Street	1,365	1,503	1,113	1,555	1,698	+9%	+24%
3	U.S. 101, northbound, a.m. — Santa Clara County I-280/I-680 interchange to Guadalupe Parkway	1,672	1,692	1,585	1,594	1,490	–7%	–11%
4	Interstate 680, northbound, p.m. — Contra Costa Co. Alcosta Boulevard to Livorna Road	1,043	1,119	1,421	1,383	1,374	–1%	+32%
5	U.S. 101, southbound, a.m. — Marin County Route 37 to North San Pedro Road	1,103	1,217	1,282	1,361	1,361	0%	+23%
6	Interstate 80, westbound, a.m. — Contra Costa County Route 4 to Alameda County line	1,062	1,146	1,428	1,317	1,285	–2%	+21%
7	Interstate 880, southbound, p.m. — Alameda County Marina Boulevard to Whipple Road	738	745	748	996	1,280	+29%	+73%
8	Interstate 880, northbound, p.m. — Alameda County Whipple Road to south of Interstate 238 interchange	788	867	1,364	1,338	1,264	–6%	+60%
9	U.S. 101, northbound, p.m. — Santa Clara County Ellis Street to San Mateo County line	798	911	933	1,064	1,249	+17%	+57%
10	Route 84, westbound, a.m. — Alameda County Dumbarton Bridge toll plaza	1,453	1,626	1,376	1,354	1,229	–9%	–15%

Source: Caltrans District 4

¹Includes buses, vanpools and motorcycles

Carpool Lane Peak-Hour Usage, 2002



peak-hour usage. Overall, on the Bay Area freeway segments equipped with them, carpool lanes carried 15 percent of peak-hour vehicles, but moved 28 percent of the

people traveling on those freeways. The peak-hour average speed in carpool lanes during 2002 was 62 miles per hour, versus 41 miles per hour in mixed-flow lanes.

Fewer Uncongested Roads in Alameda and Santa Clara Counties in 2002

The only Bay Area counties to monitor congestion on local roadways in 2002 were Alameda and Santa Clara, and both counties found an increase in the portion of roads experiencing “moderately congested” conditions during the afternoon commute period. With 2000 as a comparison year, the percentage of “moderately congested” roadways in Santa Clara County rose to 54 percent from 47 percent, and in Alameda County to 29 percent from 25 percent. In Santa Clara County, however, where the traffic-thinning effects of the dot-com implosion were still being felt, the portion of roadways categorized as “severely congested” shrank by almost half from the level measured in 2000, falling to 6 percent from 10 percent. The portion of “severely congested” roadways in Alameda County remained steady, at 2 percent.

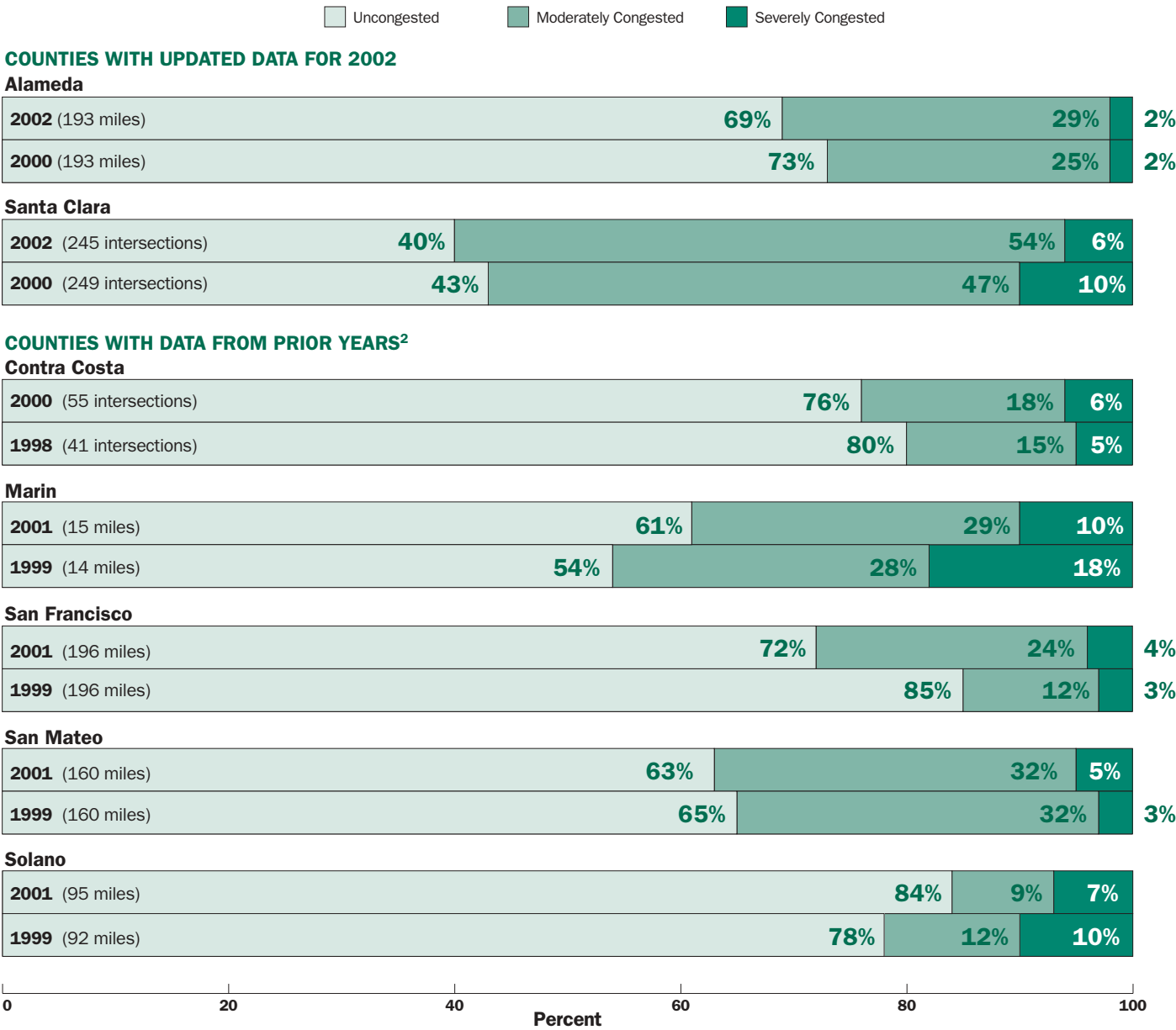
In those Bay Area counties that did not monitor local congestion in 2002, prior-year data show a lightening of afternoon congestion in both Marin and Solano counties, where the percentage of “uncongested” roadways rose to 61 percent in Marin and 84 percent in Solano in 2001 (from 54 percent and 78 percent, respectively, in 1999). In the case of Marin, virtually all the increase in uncongested roadways came from a decrease in the percentage of severely congested roadways, which dropped to 10 percent in 2001 from 18 percent in 1999. San Francisco, meanwhile, witnessed an opposite occurrence, with the percentage of uncongested roadways declining to 72 percent in 2001 from 85 percent two years earlier. This boosted the moderately congested portion of the city’s roadways to 24 percent in 2001 from 12 percent in 1999. In Contra Costa and San Mateo counties, afternoon traffic conditions changed little in the years most recently monitored.

However, even though congestion has increased in some counties, it should be noted that in most of the monitored segments and intersections in the local roadway system, traffic still flows freely during the evening commute period. Santa Clara County is an exception to this phenomenon. Here, even though the slowing economy has reduced the percentage of severely congested intersections, a majority — 60 percent — of the 245 intersections monitored by the county’s congestion management agency in 2002 continue to experience moderate or severe congestion during the afternoon peak period.

In the Bay Area, congestion management agencies monitor performance of a selected system of “high priority” local roads biennially in every county except Napa and Sonoma. Santa Clara and Contra Costa counties measure congestion based on vehicle counts at major intersections. San Francisco, Alameda and Marin counties measure congestion on roadway segments either by counting vehicles or by using specially equipped cars that cruise selected segments of the roadway system to calculate the average travel speed. San Mateo and Solano counties use both the intersection and roadway segment techniques, but only the results of the segment monitoring are reported here, because these account for a greater portion of those counties’ roadway systems.

Because monitoring techniques vary by county, the congestion data presented here is best used to track changes within a given county over time (rather than to compare conditions in different counties). See Appendix A for further discussion of monitoring techniques and definitions of congestion severity.

Local Roadway Congestion by County¹ During the P.M. Peak Commute Period



Source: County congestion monitoring reports

¹ Selected road segments and/or intersections; Napa and Sonoma counties do not monitor local roadway congestion.

² Current (2002) data is not available for Contra Costa, Marin, San Francisco, San Mateo or Solano counties.

Transit Operators Improve Punctuality Record in 2001-02

Riders of the Bay Area’s buses and trains were able to plan their trips with greater certainty in 2001-02, thanks to improved on-time performance records posted by the region’s seven largest transit operators. Setting the standard for punctuality was Caltrain, which compiled an impressive 96 percent on-time record, a significant improvement over 2000-01, when 86 percent of the Peninsula railroad’s trains met the railroad’s internal performance standard of arriving at stations within 5 minutes of scheduled times. Valley Transportation Authority (VTA) buses and BART trains continued their consistently strong records of punctuality, log-

ging on-time performance ratings of 95 percent and 93 percent, respectively. Also noteworthy was the performance of San Francisco Muni, which recorded strong on-time improvements across its fleet of light-rail vehicles, motor buses and electric trolley buses.

It should be noted that Caltrain’s improved on-time record is traceable in part to schedule adjustments made by the railroad to reflect slower travel speeds due to track construction work. Calibrating schedules to match performance naturally tends to boost an agency’s record of on-time performance in the short run. Still, it is considered good man-

On-Time Performance of Seven Largest Bay Area Transit Operators, Fiscal Years 1997-98–2001-02

	Percent of Trips on Time by Fiscal Year					2001-02 Goal
	1997-98	1998-99	1999-2000	2000-01	2001-02	
Buses						
Valley Transportation Authority ¹	94%	94%	94%	93%	95%	95%
Golden Gate Transit ²	91%	88%	87%	85%	87%	90%
SamTrans ³	88%	85%	85%	85%	84%	85%
AC Transit ⁴	70%	73%	73%	69%	74%	90%
Muni (electric trolley bus) ⁵	54%	54%	NA	64%	74%	85%
Muni (motor bus) ⁵	50%	57%	NA	63%	68%	85%
Rail						
Caltrain ⁶	94%	88%	66%	86%	96%	95%
BART ⁷	92%	92%	92%	92%	93%	95%
VTA ⁸	91%	91%	91%	93%	84%	95%
Muni ⁵	26%	43%	NA	49%	66%	85%

Sources: AC Transit, Golden Gate Transit, Muni, SamTrans, VTA, Caltrain, BART

Notes:

¹ No more than 5 minutes late

² Less than 5 minutes late and 1 minute early (bus only); prior to 2001-02, no more than 5 minutes late.

³ No more than 5 minutes late; prior to 2001-02, no more than 5 minutes late or 1 minute early

⁴ Never early and no more than 5 minutes late

⁵ No more than 4 minutes late or 1 minute early; prior to 1998-99, no more than 3 minutes late or 1 minute early

⁶ Train arrived at the end of the station within 5 minutes of scheduled time

⁷ Less than 5 minutes late at scheduled terminal stations

⁸ No more than 3 minutes late

agement practice for transit operators to update their schedules periodically to reflect changing traffic conditions and other factors beyond their control that nevertheless affect their ability to adhere to published timetables. Of course, changing conditions can sometimes work to enhance transit operators' ability to stick to a schedule. A case in point is the recent reduction in congestion on local roadways in the region (a consequence of the sluggish economy); here the

freer flow of traffic likely helped bus operators to improve their record of on-schedule service in 2001-02.

The impressive gains in Muni's performance reflect continued efforts to improve service in response to 1999's voter-approved Proposition E. Proposition E also liberalized the definition of "on-time," though Muni's standard is still the most rigorous of the major operators — and one of the most difficult standards to meet.

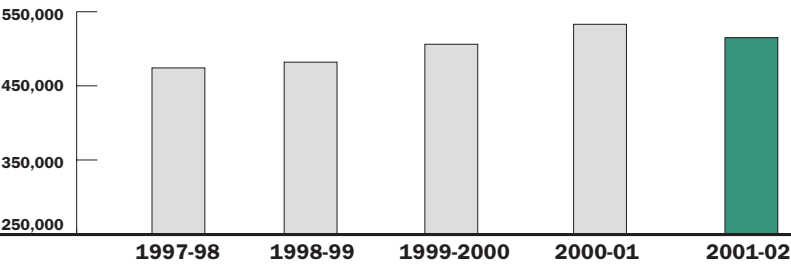
Slowing Economy Puts the Brakes on Rising Transit Ridership; 2001-02 Sees First Drop in Five Years

After rising a healthy 12 percent during the economic boom years between 1997-98 and 2000-01, transit ridership slipped back a notch in 2001-02, falling 3 percent from the record high level achieved a year earlier. The decline was expected, given the loss of hundreds of thousands of jobs in the region due to the bursting of the dot-com bubble and the general economic slowdown the Bay Area has experienced. Still, even with 15 million fewer annual boardings, ridership remained above the 500 million mark and is up 9 percent from the 1997-98 level.

The seven largest transit operators in the Bay Area all suffered ridership declines in 2001-02, ranging from a scant 1 percent dropoff for San Francisco Muni to a stiff 18 percent decline for the Peninsula’s Caltrain. In the latter case, part of the falloff in ridership was due to Caltrain’s suspension of weekend rail operations (substituting instead temporary bus service) to construct track improvements for its new Baby Bullet express service. Ridership at BART fell by 7 percent during the year, and its 6.8 million fewer boardings accounted for almost half the regional decline. The four

Ridership on Bay Area Transit Systems by Operator, Fiscal Years 1997-98–2001-02

Operator	Thousands of Annual Boardings					Percent Change	
	1997-98	1998-99	1999-2000	2000-01	2001-02	2000-01–2001-02	1997-98–2001-02
Muni	219,507	217,050	226,182	236,205	234,303	–1%	+7%
BART	81,422	86,488	97,024	103,919	97,351	–6%	+20%
AC Transit	63,877	66,089	68,088	71,529	69,531	–3%	+9%
Valley Transportation Authority	53,547	54,996	55,701	58,160	53,710	–8%	0%
SamTrans	18,834	18,350	17,925	18,136	17,387	–4%	–8%
Golden Gate Transit	11,032	11,108	11,465	11,618	10,676	–8%	–3%
Caltrain	8,632	8,622	8,735	9,925	8,138	–18%	–6%
Other Operators	17,349	19,282	20,986	23,546	23,863	+1%	+38%
Total – All Operators	474,200	481,986	506,106	533,038	514,958	–3%	+9%



Source: Metropolitan Transportation Commission and Federal Transit Administration

largest operators — San Francisco Muni, BART, AC Transit and the Valley Transportation Authority — still carry the overwhelming majority of riders. Together these four operators carried 89 percent of all riders in 2001-02, the same percentage as the previous year.

On a brighter note, the smaller transit operators who provide service to communities outside the main urban core saw their ridership rise in 2001-02 by a collective 4 percent, indicating that demand for transit in these areas is still on the rise.

A Closer Look –

The 10 most heavily used Bay Area bus routes in fiscal year 2001–02 are shown to the right. Eight of the routes are operated by San Francisco Muni.

Top 10 Bay Area Bus Routes, by Boardings

Rank	Route	Average Weekday Boardings 2001-02	2000-01 Rank
1.	San Francisco Muni: 38 Geary	53,400	1
2.	San Francisco Muni: 14 Mission	45,400	2
3.	San Francisco Muni: 1 California	30,600	3
4.	San Francisco Muni: 9 San Bruno	29,900	4
5.	San Francisco Muni: 49 Van Ness/Mission	28,900	10
6.	San Francisco Muni: 30 Stockton	28,300	6
7.	San Francisco Muni: 15 Third St.	26,500	5
8.	Valley Transportation Authority: 22 Eastridge – Palo Alto/Menlo Park	24,100	8
9.	AC Transit: 82/82L West Oakland – Hayward BART	22,500	9
10.	San Francisco Muni: 22 Fillmore	22,000	7

Sources: AC Transit, Muni, VTA
Note: AC Transit data is for 1998, the latest year available.